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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,960	12/04/2002	Gopal B. Avniash	125517/GEM-0071	2536
23413	7590	05/03/2005	EXAMINER	
CANTOR COLBURN, LLP			JUNG, WILLIAM C	
55 GRIFFIN ROAD SOUTH			ART UNIT	
BLOOMFIELD, CT 06002			PAPER NUMBER	

3737

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SP

**Office Action Summary****Application No.**

10/065,960

**Applicant(s)**

AVNIASH ET AL.

**Examiner**

William Jung

**Art Unit**

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of: ~
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

### *Double Patenting*

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-33 of U.S. Patent No. 6,771,999 B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because Salla et al substantially claims all features in claims 1, 10, 16, 18, 21, and 25. Salla et al discloses in claims 1, 28, and 32 where a method of gating a medical imaging includes using cardiac gating stemming from non-electrical sensor from sensing mechanical vibrations. Although, the mechanical sensing property is not claimed, it is obvious by definition of mechanical sensor as being any of the following; strain gauge, pressure sensor (can be acoustic pressure), motion sensor, pneumatic sensor (force), displacement sensor (acceleration), etc. Therefore, it would

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have been obvious to one having an ordinary skill in the art at to interpret the mechanical sensor in Salla et al's invention as force or acceleration sensor.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-18, 21-26, 29, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by *Sontag et al* (US 6,076,005).

Sontag et al anticipate all claimed features in claims 1-18, 21-26, 29, and 30.

**Claims 1, 7, 10, 16, 18, 21, 22, 25, 26, and 29:** Sontag et al disclose a method and system to provide gating of therapeutic or diagnostic (i.e. medical imaging) energy to a tissue volume of a patient during a portion of the patient's respiratory cycle where the measurement of the respiratory cycle is based on displacement (acceleration sensor) and pressure (force sensor) (col. 2, lines 47-63; col. 4, lines 25-42; col. 5, line 11 – col. 6, line 6). Regarding claims 10 and 18, the element strain gauge is well known in the art to measure stress, pressure or force on a sensor, therefore, strain gauge is a functional equivalent of pressure or force sensor.

**Claims 2-6:** Sontag et al discloses that the diagnostic method and device described above may be any of the following, x-ray, CT, MRI, PET, SPECT, or ultrasound (col. 4, lines 14-24; col. 4, lines 43-56; col. 5, lines 16-21).

**Claims 8, 9, 14, 15, 23, and 30:** Sontag et al further disclose that the gating signals are obtained based on breathing cycle with phase of the cycle is analyzed (signature analysis) and

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the this database provides the trigger point automatically based on a d specified incidence (equivalent to pattern recognition extraction) (col. 5, line 51 – col. 6, line 6).

**Claims 11-13, and 17:** Sontag et al disclose that the sensor described above measures acceleration with linear accelerator 3 (col. 5, lines 16-19).

**Claims 24:** Sontag et al disclose that the sensor includes measuring pressure from a gas or fluid flow (col. 5, lines 4-8). Although, Sontag et al do not disclose that the structure of the sensor is a non-conducting tube, airflow or fluid flows are measured thru a conduit, which may be a tube.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19, 20, 27, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Sontag et al* as applied to claims 18 and 25 above, and further in view of *Arcelus* (S 6,149,602).

Sontag et al substantially disclose all claimed features in claims 19, 20, 27, and 28. Although, Sontag et al is silent as to the placement of the sensor on the patient as described in applicant's claims 19, 20, 27, and 28, it is well known in the art that the pulse or the pressure/force measurement can be made where the mechanical pulse are the strongest, i.e. chest, wrist, neck, etc. As demonstrated by Arcelus that for pulse monitor can be monitor or pulse measurement, it is well known in the art as taught by Arcelus, that the sensor on the ECG can be

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attached to the patient's wrist. In addition, Arcelus's device has a bandwidth limitation of 125 Hz (col. 4, lines 15-21; col. 5, lines 25-32). Therefore, it would have been obvious to one having an ordinary skill in the art at the time the invention was made to apply the teachings of Arcelus to Sontag et al to achieve the claimed invention.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung, Ph.D. whose telephone number is 571-272-4739. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJ

April 27, 2005

  
BRIAN L. CASLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700